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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HEINCER, LIAM J	

ART UNIT	PAPER NUMBER
1796	

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10/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/582,053	KEUL ET AL.	
	Examiner	Art Unit	
	Liam J. Heincer	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6-13 and 15* is/are rejected.

7)☒ Claim(s) *4 and 5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuwana et al. (JP 2003/012725). Note: A machine translation is being used for JP 2003012725 and all citations will be directed towards the translation.

Considering Claims 10-12: Kuwana et al. teaches 4-(2-oxo-1,3-dioxolane-4-yl) butyl (meth)acrylate (¶0018). It should be noted that because R^1 is not required in claim 10 it is still considered optional in its dependent claim, claim 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3 and 6-8, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pardoen et al. (US 2004/0127608) in view of Fukada et al. (US 2003/0134926).

Considering Claim 1: Pardoen et al. teaches modifying a polyamine/substrate with primary or secondary amine (¶0007) with a cyclic carbonate (¶0007) to form a urethane bond (¶0007).

Pardoen et al. does not teach the cyclic carbonate as being one of the claimed formulas. However, Fukada et al. teaches using 2-oxo-1,3-dioxolane-4-yl-methyl acrylate as a cross-linker between two substrates (¶0080-81). Pardoen et al. and Fukada et al. are combinable as they are concerned with the same technical difficulty, namely using cyclic carbonates to modify polymers. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the cyclic carbonate of Fukada et al. in the process of Pardoen et al., and the motivation to do so would have been, as Fukada et al. suggests, its bifunctionality allows it react with two substrates simulateously (¶0080-81).

Considering Claims 2 and 3: Pardoen et al. teaches the substrate as being a polymer (¶0014-16).

Considering Claim 6: Pardoen et al. teaches the second end of the compound as reacting with a second polymer (¶0029).

Considering Claims 7 and 8: Pardoen et al. teaches one of the substrate as being a polymer (¶0014-16).

Considering Claims 13 and 15: Pardoen et al. teaches a polymer made by the process (¶0001) for use in a dispersant (¶0001).

Claims 1-3 and 6-9, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pardoen et al. (US 2004/0127608) in view of Kuwana et al. (JP 2003/012725) as evidence by Fukada et al. (US 2003/0134926). Note: A machine translation is being used for JP 2003012725 and all citations will be directed towards the translation.

Considering Claims 1 and 9: Pardoen et al. teaches modifying a polyamine/substrate with primary or secondary amine (¶0007) with a cyclic carbonate (¶0007) to form a urethane bond (¶0007).

Pardoen et al. does not teach the cyclic carbonate as being one of the claimed formulas. Kuwana et al. teaches 4-(2-oxo-1,3-dioxolane-4-yl) butyl (meth)acrylate (¶0018). Pardoen et al. and Kuwana et al. are combinable as they are concerned with the same technical difficulty,

namely using cyclic carbonates to modify polymers. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the cyclic carbonate of Kuwana et al. in the process of Pardoen et al., and the motivation to do so would have been, as Fukada et al. suggests, its bifunctionality allows it react with two substrates simulateously (¶0080-81).

Considering Claims 2 and 3: Pardoen et al. teaches the substrate as being a polymer (¶0014-16).

Considering Claim 6: Pardoen et al. teaches the second end of the compound as reacting with a second polymer (¶0029).

Considering Claims 7 and 8: Pardoen et al. teaches one of the substrate as being a polymer (¶0014-16).

Considering Claims 13 and 15: Pardoen et al. teaches a polymer made by the process (¶0001) for use in a dispersant (¶0001).

Response to Arguments

Applicant's arguments filed July 2, 2008 have been fully considered but they are not persuasive, because:

A) Applicant's argument that the references only teach methacrylate is not persuasive. The term "(meth)acyrlate" used in both Kuwana et al. (¶0018) and Fukada et al. (¶0081) is well known in the art to refer to either acrylate or methacrylates when they can be used interchangeably. This is evidenced by the structure provided in Kuwana et al. (¶0016) where R_4 can be hydrogen or a methyl group (¶0017).

B) Applicant's argument that Kuwana et al. teaches a direct linkage between the acrylate group and the carbonate is not persuasive. As shown by the structure in Kuwana et al. (¶0016-17), there is a C_1 to C_6 alkylene linking group between the two groups. This meets the claimed limitation of a C_1-C_{12} alkylene group.

C) Applicants argument that Pardoen et al. does not teach reacting the carbonate with a second polymer is not persuasive. As shown in Pardoen et al. the cyclic carbonate is used to react with two polymers (¶0027-30). As the compounds of Kuwana et al. and Fukada et al. are known crosslinking agents (Fukada et al., ¶0078-81), a person having ordinary skill in the art at

the time of invention would have found it obvious to react the compounds of Kuwana et al. and Fukada et al. with multiple substrates as they are used in Pardoen et al.

Allowable Subject Matter

Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 4 requires that X be CO-NH-R^1 and for R^1 to be an ammoniumalkyl group. While the prior art references show that individually, the urethane linkage (Jansen et al. ¶0207, examples 4 and 5) and the ammonium alkyl group (Van Holen ¶0026) will increase the reactivity of the 2-oxo-1,3-dioxolane group, there is no suggestion in the prior art of record to use a compound comprising both of these groups to modify a substrate. Additionally, Van Holen requires a methylene bridge between the ammoniumalkyl group and the 2-oxo-1,3-dioxolane group (¶0026). There is not a reasonable expectation of success that the ammoniumalkyl group will function similarly when separated by a urethane linkage to the 2-oxo-1,3-dioxolane group. The use of a compound comprising both a urethane linkage and a ammoniumalkyl group in the claimed process would require impermissible hindsight.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./ LJH
Supervisory Patent Examiner, Art Unit 1796 September 25, 2008